

CBCS SCHEME

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15AE561

Fifth Semester B.E. Degree Examination, Dec.2018/Jan.2019

History of Flight and Technology Forecast

Time: 3 hrs.

Max. Marks: 80

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. Describe briefly the early development of airplane the ornithopters and Balloon flights. (08 Marks)
b. Describe and explain about the true inventor of airplane. (08 Marks)

OR

- 2 Explain :
i) The glider man
ii) Extending the glider tradition with necessary figures. (16 Marks)

Module-2

- 3 a. Discuss briefly about the inventor of first practical airplane. (06 Marks)
b. What is aeronautical triangle explain in detailed? (10 Marks)

OR

- 4 Explain :
i) Monoplanes and biplanes
ii) Developments in aerodynamics
iii) Development in structures
iv) Development in propulsion over the years. (16 Marks)

Module-3

- 5 a. What are the different types of flight vehicles? Explain. (06 Marks)
b. With neat sketch explain the components of aircraft and their function. (10 Marks)

OR

- 6 a. List and explain the basic instruments for flying. (08 Marks)
b. Explain conventional control and powered controls. (08 Marks)

Module-4

- 7 a. Explain the general types of construction of aircraft structures with diagram. (08 Marks)
b. Draw and explain typical wing structure. (08 Marks)

OR

- 8 a. Explain stress – strain diagram of mild steel. (04 Marks)
b. Explain briefly metallic and non-metallic materials, use of aluminum alloy, titanium, stainless steel and composite materials. (12 Marks)

Module-5

- 9 a. With neat sketch explain turbojet engine. (06 Marks)
b. Discuss briefly the comparative merits and demerits of piston, turboprop and turbojet engine. (10 Marks)

OR

- 10 Classify rockets and explain the principle of operation of rockets with neat diagram with typical application. (16 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.